

TWENTY-SECOND

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

TO THE

URBAN SANITARY AUTHORITY

OF THE

CITY OF WORCESTER.

---

**YEAR 1895.**

---

WORCESTER :

PRINTED BY DEIGHTON AND CO., 53, HIGH STREET.



TWENTY-SECOND

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

TO THE

URBAN SANITARY AUTHORITY

OF THE

CITY OF WORCESTER.


---

**YEAR 1895.**

---

WORCESTER :

PRINTED BY DEIGHTON AND Co., 53, HIGH STREET,



Digitized by the Internet Archive  
in 2018 with funding from  
Wellcome Library

<https://archive.org/details/b30291598>

**The Twenty-second Annual Report of the Medical  
Officer of Health, being for the year 1895.**

---

*TO THE URBAN SANITARY AUTHORITY  
OF THE CITY OF WORCESTER.*

---

My Lord and Gentlemen,

I have the honour to lay before you my Report of the health of the City and of its sanitary condition during the year 1895, together with the measures that have been taken to improve this condition and to check the spread of disease.

The population of the City at the middle of 1895 is estimated at 43,994. The natural increase of the population, or the excess of births over deaths, during the year is 425.

The Birth-rate was 31.02 per 1000 living, and was '92 above the mean rate for the past 9 years. (Table V.) The Birth-rate for England and Wales for 1895 was 30.3.

The Death-rate was 21.3, which was 1.1 higher than the mean rate for the past 9 years. (Table V.) The Death-rate for England and Wales was 18.7.

The Infantile death-rate was 189 per 1000 births registered during the same period, and is 11 per 1000 above the mean rate for the past 9 years. (Table V.) The rate

for England and Wales was 161 ; the mean proportion in the 10 years, 1885-94, having been 146.

The Death-rate from the seven principal Zymotic diseases was 2·18, which was ·48 above the mean rate for the preceding 9 years. The rate for England and Wales was 2·14.

Inquests were held by the City Coroner in 44 cases, or 4·5 per cent. of the total deaths registered in the City during the year. Of this number, death was assigned to natural causes in 16 cases, to accidental causes in 17, and to suffocation whilst in bed with parents or others in 2 cases. Inquests were held on the bodies of 11 infants under one year of age, of whom 4 were illegitimate ; and on 6 other children of ages from 1 to 7 years.

As in previous years in estimating the death-rate, there have been included the deaths of 8 inmates of Powick Asylum, who went there from the City, and the deaths of persons dying in the Infirmary who came from outside the City, 37 in number, have been excluded.

In comparing these rates with those of former years it will be noted that the Birth-rate is higher than any recorded for the past five years. The Death-rate has been exceeded only twice during the past seven years. The main factors causing this high death-rate were the extremely cold weather of the early part of the year, and coincident epidemics of whooping cough and influenza, the latter disease again causing an increased number of deaths from diseases of the respiratory system.

In Table II. are seen the number of deaths at various



ages for each month of the year, and the totals for the months of February, March, and April have only been exceeded in two months of the preceding 4 years, namely, in January, 1892, and December, 1893.

The Zymotic death-rate is above the average, and of the 96 deaths assigned to these diseases no less than 55 were due to whooping cough, giving a death-rate for this disease of 1·25. The details of these deaths will be found in Table VI. The deaths from Diphtheria give a death-rate for this disease of ·16. The deaths from Typhoid Fever give a death-rate of ·06. During the year 35 deaths were assigned to Cancer giving a death-rate of ·79. The deaths from Phthisis numbered 63, giving a death-rate of 1·4. The total deaths from all forms of Tubercle numbered 98, giving a death-rate of 2·2.

### INFANTILE MORTALITY.

It has been known that for many years past the infantile mortality of the City has been much higher than it ought to be. It is an unfortunate fact that although the vastly improved sanitary condition of our towns has resulted in a considerable lowering of the general death-rate, yet the infantile death-rate has not been affected to anything like the same extent.

The Registrar-General in his Report for the year 1893 gives the following figures for England and Wales:—

Period.		Annual Death-rate.		Annual Infantile Mortality.
1851-60	...	22·2	...	154
1861-70	...	22·5	...	154
1871-80	...	21·4	...	149
1881-90	...	19·1	...	142

It is here seen that whereas the death-rate during this period of 40 years has been reduced from 22·2 to 19·1, a reduction equal to 14 per cent., the infantile mortality has been reduced from 154 per 1000 births to 142, or a reduction of only 7·7 per cent., hardly more than one-half of the reduction per cent. of the general death-rate. But while the infantile mortality of the whole of England and Wales stood at the average of 142 for the 10 years 1877-86, yet if the rural districts be excluded and only the great towns be reckoned, it will be found that in the towns during the same decade, the infantile mortality was 161. In these 28 large towns, during the same period, the mortality ranged from 137 to 218; and 18 of these towns averaged an infantile death-rate of over 160 during these years. There is no doubt, and it might have been expected *a priori*, that the crowding together of people in cities and the general surroundings are distinctly inimical to infant life. In the Report for the year 1891 the Registrar-General gives a table in which he compares the infantile mortality of three towns which are almost invariably the worst in this respect, namely, Preston, Leicester, and Blackburn, with three agricultural counties, namely, Hertfordshire, Wiltshire, and Dorsetshire, the period chosen being that of the three years 1889-91. The following table is part of that mentioned above, and alongside are placed the figures for Worcester for the 5 years 1891-95 worked out in the same manner.



Age.	Of 100,000 born, the numbers surviving at each age.			Number of Deaths that have taken place at the end of each period.		
	Three Rural Counties.	Worcester.	Three selected Towns.	Three Rural Counties.	Worcester.	Three selected Towns.
At Birth .....	100,000	100,000	100,000	100,000	100,000	100,000
1 week.....	97837	97797	97354	2163	2203	2646
1 month ...	96512	95670	95053	3488	4330	4947
3 months...	94820	91714	90874	5200	8286	9126
6 months...	93068	87864	85574	6932	12136	14426
9 months...	91648	84900	81556	8352	15100	18444
12 months...	90283	82557	78197	9717	17443	21803

This table shews that Worcester occupies a position between the counties and the three towns. But the position varies a good deal at the different age periods. Thus, at the end of the first week the number of infant deaths at

Worcester per 100,000 births exceeds those of the counties by 40 only. At the end of the first month the falling away is marked, and the declension towards the number of deaths in the three towns is more than one-half. In each of the succeeding periods of which the figures are given, the declension is still greater, and the figures of Worcester are about three-fourths of the way from those of the counties towards those of the three towns which were selected because of their high infantile mortality. Taking a general view of the character of this City, it would strike one that the infantile mortality here ought not in comparison with rural districts and the three selected towns to lean so strongly towards the figures of the three selected towns as appears in this table. To see what light can be cast on this matter, the total infantile deaths of the past 5 years, 1891 to 1895 inclusive, have been tabulated and arranged under various causes of death. The total deaths number 1124, and are placed according to the day, week, or month after birth on which the death occurred.

ANALYSIS OF DEATHS OF INFANTS UNDER ONE YEAR OF AGE for the 5 years 1891 to 1895 inclusive.

Causes of Death.	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	7th day.	1st week.	2nd week.	3rd week.	4th week.	1st month.	2nd month.	3rd month.	4th month.	5th month.	6th month.	6 to 9 mos.	9 to 12 mos.	Total.
Whooping Cough...	...	...	...	...	...	...	...	...	...	...	...	...	2	9	7	5	3	9	25	60
Measles. ....	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	8	13	23
Scarlet Fever...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Erysipelas...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	...	1	...	4
Premature Birth and Congenital Malformation.	50	9	9	9	4	7	3	9	15	18	10	13	11	1	2	...	1	3	1	153
Tubercular Diseases.	...	...	...	...	...	...	...	...	2	...	1	3	2	7	9	4	4	22	14	65
Convulsions and Diseases of the Nervous System.	...	1	...	1	1	...	...	3	2	3	2	10	5	5	8	3	4	10	10	55
Respiratory Diseases.	4	...	2	1	...	...	...	7	3	2	2	14	15	20	14	9	15	56	44	187
Dentition. ....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	2	10	5	18
Diarrhoea and Gastro-Intestinal Disorders.	...	...	...	...	...	...	...	...	4	7	8	19	22	39	32	17	12	33	14	188
Deaths from Violence.	1	...	1	...	...	...	...	2	...	2	...	4	2	4	3	...	2	2	1	18
Debility, Inanition, Marasmus.	13	5	7	4	1	1	2	33	12	14	21	80	41	48	35	30	12	33	14	293
Other causes .....	2	...	2	2	...	1	...	7	...	4	4	15	11	8	3	7	3	3	9	59
Totals .....	70	15	21	17	6	9	5	143	38	50	48	279	113	142	114	77	58	190	151	1124

What first arrests the attention in studying this analysis, is the large number of deaths that occur during the first day of life, namely one death out of every 16. During the remaining days of the first week this proportion is much less, but the total for the first week is 143 ; or 1 death out of every 8 deaths during the whole year occurs during the first week of life. None of these deaths can be directly due to insanitary surroundings, but of course such surroundings may so lower the vitality of the mother as to cause her to produce immature weakly offspring. Some of these deaths may be due to the ignorance of the so-called midwives who attend so large a proportion of the poorer classes. If the aid of medical men were called in at an earlier period, probably many of these infants' lives could be saved. The first month of life is fatal to 279 children, or one-fourth of the whole number. The 2nd and 4th months have 2-5ths of the mortality of the 1st month ; but the 3rd month has rather more than half the mortality. The succeeding months have from 77 to 50 deaths each.

To turn to the consideration of the causes of death, it will be noted that the Zymotic diseases do not claim many victims until the 3rd month of life. Then Whooping Cough appears as a cause of death. It is unfortunate in one respect that during these 5 years there occurred 2 severe epidemics of Whooping Cough, namely in 1891 and 1895, both in the early months of the year, when exceptionally cold weather prevailed. The total mortality of these 2 epidemics numbered 115, of which as will be seen no less than 60 deaths were of infants during their first year of life. The only other Zymotic disease causing any con-



siderable number of deaths is measles, and these mostly occurred during the second 6 months of life.

To Premature Birth and Congenital Malformations are assigned 153 deaths, rather less than 1-8th of the total deaths. Of these 1-3rd occur during the first day and nearly the whole during the first month. It may here be remarked that Premature Birth as a cause of death seems to be on the increase throughout England. In the year 1868 there were assigned to this cause 398 deaths per 1,000,000 living, whereas in 1892 this figure had increased to 562.

The deaths from Tubercular diseases and diseases of the Nervous System together numbering 120, or more than 1-10th of the whole number, are fairly evenly distributed through the months of the year.

The deaths from diseases of the Respiratory System number 187, being 1-6th of the total deaths. The deaths are distributed fairly evenly through the months of the year.

The deaths from Intestinal disorders number 188, being 1-6th of the total deaths. These disorders are seen to be more fatal during the first 4 months of the year than in the succeeding months, and this is due no doubt to artificial feeding and to the gross ignorance that prevails respecting the food appropriate to young infants.

The deaths assigned to Debility, Inanition, and Marasmus number 293, or nearly 1-4th of the total deaths. It will be seen that no less than 33 of these deaths occur during the first week of life, and these must be due to



feebleness at birth. During the first month 80 deaths take place from these causes ; during the succeeding 4 months the number is still large, but only about half of the number that occur during the first month. It will be noted that the deaths in this class during the 2nd, 3rd and 4th months vary *pari passu* with those under the heading of Intestinal disorders, and there is much probability that Intestinal disorders are really the cause of most of the deaths in this class. After the 5th month the deaths decrease very markedly, and the fact is that if a hand-fed child survives the 5th month the digestive organs can deal with a variety of food which in the earlier months would be the cause of intestinal disorders and consequent starvation.

In a foregoing Table a comparison has been made between the infantile mortality in Worcester and that in 3 Rural Counties, and 3 Manufacturing Towns. With the help of Tables published in "Public Health" in 1895, a comparison can be made as regards the causes of deaths in infants between Worcester and two towns, Stockport, a large manufacturing town, and Eastbourne, a health resort. The figures for Stockport and Eastbourne are for the five years 1889-93, those for Worcester for the five years 1891-95. The causes of death as given in the preceding Table have been re-arranged to bring them into accord with the Tables as given in "Public Health."

The comparison of the number of deaths being useless, the death-rates per 1,000 births for the various causes of death are given.

Causes of Death.	WORCESTER.		STOCKPORT.		EASTBOURNE.	
	Registered Deaths.	Death-rate per 1000 births.	Registered Deaths.	Death-rate per 1000 births.	Registered Deaths.	Death-rate per 1000 births.
Whooping Cough .....	60	9.3	55	7.4	28	6.6
Measles .....	23	3.5	63	5.5	12	2.8
Premature Birth and Congenital Malformations.	153	23.0	150	13.0	123	29.2
Respiratory diseases.....	252	39.1	741	64.6	140	33.3
Tubercular diseases .....						
Convulsions and Nervous diseases .....	55	8.5	249	21.7	34	8.0
Dentition .....	18	2.7	89	7.7	2	.4
Diarrhœa .....	188	29.1	419	36.5	94	22.3
Violence .....	18	2.7	20	1.7	12	2.8
Debility and Marasmus ...	293	45.4	568	49.5	42	10.0
Other Causes and Erysipelas .....	63	9.7	74	6.4	65	15.4
WORCESTER.	Total births 1891-5		6,444			
STOCKPORT.	" 1889-93		11,453			
EASTBOURNE.	" "		4,200			

Comparing Worcester with Eastbourne, the rates shew small variations with one marked exception. The rates under Premature Birth for Worcester is 6 per 1,000 less than at Eastbourne ; under Respiratory diseases it is 6 per 1,000 more ; under Diarrhœa it is 7 per 1,000 more ; under

other causes it is 6 per 1,000 less ; but under Debility and Marasmus *it is 35 per 1,000 more.*

Comparing Worcester with Stockport, the rates are higher in Worcester as regards Premature Births 10 per 1,000, Violence 1 per 1,000, and other causes 3 per 1,000.

The rates are lower in Worcester than in Stockport under the headings Respiratory diseases by 25 per 1,000 ; under Convulsions by 13 per 1,000 ; under Dentition by 5 per 1,000 ; under Diarrhœa by 7 per 1,000 ; and under Debility, &c., by 4 per 1,000.

Why the rate under Premature Birth in Stockport should be so much less than in Worcester and Eastbourne it is difficult to say.

It will be seen that the heavy mortality in each town falls under four headings, namely, Premature Birth, Respiratory diseases, Diarrhœa, and the unsatisfactory class Debility and Marasmus.

Before proceeding to discuss the immediate causes of these deaths, it is necessary to know in what parts of the city the chief mortality occurs. The following Table shows the average annual death-rate in each parish, and the infantile death-rate estimated per 1,000 on the births in the parish. The parishes have been placed in order of demerit as regards the infantile mortality, the worst being first.

Births and Deaths in Parishes for the Five years 1891—5 ;  
the population being estimated for the middle of that  
period :—

Parish.	Popula- tion.	Total Deaths.	Average Annual Death- rate.	Total Births.	Deaths under 1 year.	Infantile Death- rate.
St. Michael.....	450	87	39·1	44	13	295
All Saints .....	1730	276	31·9	284	68	239
St. Alban .....	140	26	37·1	27	6	222
St. Andrew.....	1150	173	30·0	220	47	213
St. Clement.....	2050	240	23·4	390	80	205
Blockhouse.....	2205	283	25·6	470	85	180
St. Peter.....	8200	693	16·8	1210	216	178
St. Martin .....	4900	520	21·2	793	140	176
St. Nicholas .....	1800	159	17·6	151	26	172
Whistones .....	2850	330	23·1	375	60	160
St. John .....	4750	404	17·0	707	112	158
South Claines.....	11750	988	16·8	1578	236	149
St. Swithin .....	525	43	16·3	55	8	145
St. Helen .....	890	137	30·7	106	13	122
South Hallow.....	480	46	19·1	44	4	90
College Precincts	130	1	...	...	...	...
<b>Worcester.....</b>	<b>43480</b>	<b>4300</b>	<b>19·7</b>	<b>6444</b>	<b>1127</b>	<b>175</b>



It will be noted that the first 8 parishes have an infantile death-rate in excess of that for the whole city. Their population is nearly one-half of the total for the whole city; and the average annual death-rate in 4 is very high, and in the rest is higher than that of the whole city, except in the case of St. Peter. *These parishes contain nearly the whole of the old parts of the city*, and have, generally speaking, a considerable portion of the poorest classes of the community. The large parishes of South Claines and St. John with a death-rate of 17 per 1,000 and an infantile death-rate of 150 shew what our city might become if we could sweep away our slums, and the ignorance and pauperism of their inhabitants. This Table proves, then, what anyone knowing the city well would have surmised, that these parishes with crowded courts and old houses, containing our most ignorant and poorest citizens, have excessively high death-rates, and that only the strong survive of the infants born under these conditions. There is no doubt that the social factor is the most potent and most constant cause of a high Infantile Mortality. In many towns, women having families are largely employed in factory work; this does not obtain in Worcester to any extent worth consideration. A very large number of married women carry on the gloving industry at home, but that ought not one would think to so fill up their time as to cause them to neglect their infants.

It will serve no useful purpose to discuss the causes of Premature Birth and Congenital Defects, so little is known about them. It is reasonable to suppose that feeble, ill-nourished women will have feeble offspring, and that the



deaths occurring during the first week of life, to whatever cause assigned, are due to maternal or hereditary causes. The inexperience and neglect of mothers tells on the infants at an early age, and chiefly in the matters of clothing and feeding. The clothing is of improper material and too scanty. These old houses have nearly all stone floors on the ground floor, and children a few months old are almost constantly crawling on the floor, which must tend to respiratory diseases, a fertile cause of death in infants. The improper feeding of infants is the chief factor of infantile deaths, and probably accounts for one quarter of all deaths under 1 year of age. It is unfortunate that civilisation seems to reduce the capability of mothers to afford to their offspring the natural sustenance. This fact and a growing dislike in all classes to the restrictions that suckling entails, must be the reasons for the vast array of infant foods, good, bad, and indifferent, that crowd the chemists' shelves. But among the poor these foods are out of the question on the score of expense, and the one food that can be made suitable, cows' milk, is about the last thing the poor spend money on. The hand-feeding of infants among the poor is always difficult ; it requires great cleanliness and constant care. They are not trained to either. The food the infants get is beyond the powers of their digestion ; they waste, with vomiting and diarrhœa ; or simply atrophy from want of nourishment. Towards the end a doctor is sent for, and a certificate of " Marasmus " is given in a few days.

The remedies for these conditions have to be sought in improved dwellings and surroundings. Sunlight and fresh

air must be able to get into the houses ; damp and dirt must be got rid of. The growing girls must be taught the simplest rules of hygiene, to love cleanliness and hate the opposite ; they should also be taught how to clothe and feed infants. There are now to be found ladies who have knowledge in these matters, and who are prepared to engage themselves to act as Missionaries of Hygiene. Your Authority would, in my opinion, make a wise outlay of money if a lady skilled in domestic hygiene were engaged for a short period of years to visit through the city and hold cottage meetings ; she could also be of great assistance in house to house visitation, and in reporting on their general sanitary condition. Many towns through the kingdom have engaged women in such work, and with great benefit to the communities they serve.

Some good might also be effected by the distribution of a card with simple printed rules for the management of the home and of infants. A leaflet would probably be useless, but an attractive card that could be hung up in the living room would probably be read and its meaning be gradually assimilated.

The question of dealing with a large part of the old City is a serious one. The cleansing of the various houses and repairing them is good so far and necessary, but any adequate dealing with many areas means destruction of the houses and rebuilding on the site. This method of procedure it is proposed to adopt during the ensuing year respecting one or two small areas, under Part I. of the Housing of the Working Classes Act, 1890.

## THE INFECTIOUS DISEASE (NOTIFICATION) ACT.

During the year 216 cases of infectious disease were notified. As in all former years, notification of the disease by the householder has been a dead letter.

In one instance the parents of a child suffering from Scarlet Fever were prosecuted for allowing the child to go about the streets while in an infectious condition, and a fine was inflicted by the Magistrates. No other breach of the Act was discovered.

Action was taken by the Health Committee respecting two of the elementary schools of the City. In February the Managers of St. Nicholas Infant School consulted me respecting the outbreak of Whooping Cough among the scholars. By order of the Committee all those children in whose houses the disease had broken out were prohibited from school attendance, and a certificate to that effect was given. The Education Department made a special grant in accordance with Article 101.

In the second week in July, it was seen that there was among the scholars of St. Stephen's Infant School an undue amount of Scarlet Fever. The summer holidays began on July 18th, or I should have advised the Health Committee to close the school. The holiday put an end to the local epidemic, and the schools were, by order of the Committee, thoroughly cleansed before re-assembling.

The diseases that are scheduled under this Act have been notified during the year as follow :—

Month.	Smallpox.	Scarlet Fever.	Diphtheria.	Typhoid Fever.	Continued Fever.	Puerperal Fever.	Erysipelas.	Total.
January .....	...	5	...	1	...	...	3	9
February .....	...	10	4	1	...	...	3	18
March .....	...	6	...	2	...	1	1	10
April .....	...	5	1	2	...	...	3	11
May .....	...	5	1	1	1	...	3	11
June.....	...	12	4	2	...	...	1	19
July .....	...	24	3	3	...	...	1	31
August .....	...	12	4	1	...	1	1	19
September .....	1	18	4	3	...	...	5	31
October .....	...	22	2	...	...	...	2	26
November .....	...	13	1	...	...	1	1	16
December .....	...	9	2	1	...	...	3	15
Total for 1895	1	141	26	17	1	3	27	216
„ 1894	63	127	34	46	2	6	59	337
„ 1893	13	273	39	65	1	9	94	494
„ 1892	1	236	27	67	1	6	98	436
„ 1891	...	40	10	73	...	6	55	184
„ 1890	...	131	10	77	...	7	79	304

In accordance with my previous practice, I personally enquire into all the cases of Smallpox, Diphtheria, Typhoid and Puerperal Fevers, and inspect the houses from which they are notified.

**Smallpox.**—Only one case of this disease was notified during the year. The patient was nursed at home, and no



spread of the disease took place. The origin of the disease could not be discovered.

**Scarlet Fever.**—This disease has been in the large majority of cases of a mild type, and only one death from it has been registered. Of the 141 cases notified, one came from the General Infirmary, the rest were distributed in all parts of the city in 105 houses. There were two localised outbreaks, one among the scholars of an infants' school, and a second, which seemed at first sight to be connected with a milk supply. In the latter case careful enquiry and examination of the inmates of the farm and of the cows supplying the milk failed to discover any trace of the disease among them.

**Diphtheria.**—There were 26 cases of this disease notified, and 7 deaths occurred. Of these one came from London from an infected house, but was attacked and died; one came from Norton into the General Infirmary, and died after being tracheotomised; and one was a district nurse who contracted the disease nursing patients with diphtheria in a neighbouring village. The remaining 23 cases occurred in 19 houses, one being a nurse in the General Infirmary. The drainage of the 18 infected houses was in 9 cases good, in one defective, in one bad. In the other 7 houses the drainage was all outside the houses and had no obvious defects. The houses were all connected with the city sewers.

Of the 7 persons who died, 5 died on the same day on which the notification was received, and all these were children under 5 years of age. The other deaths were of a



baby aged 1 year and of a woman whose case was complicated by an attack of delirium tremens.

Bacteriological examination was made in 14 of the 26 cases, and the diagnosis was confirmed in 12 instances, with three deaths. In 2 cases no bacilli diphtheriæ were found, and both recovered. Recent experience has proved that the throats of persons who have had diphtheria may for many weeks, perhaps months, continue to harbour the bacilli diphtheriæ, and yet these same throats are to all appearances free from disease. If further experience confirms this, great care ought to be exercised by all medical men in pronouncing individuals free from the disease, and especially in allowing school children to return to school after an attack of this disease. One case has come under my notice, in which every care seems to have been taken and yet infection was retained in the throat many weeks.

**Typhoid Fever.**—The decrease in the number of cases of this disease is very marked. Only 17 cases have been notified during the year; one of these which was admitted to Hospital proved to have Meningitis, and died of that disease. The remaining 16 cases occurred in 15 houses, and 4 deaths took place. (One death occurred in January, 1896, so does not appear in the statistics of 1895). The drainage of these houses was good in 6 instances, bad in 6, and 3 were not connected with the sewerage system and could not be by reason of their position. The drainage defects were made good. It is noteworthy that the proportion of houses in which cases of Typhoid Fever were notified having bad drainage is much larger this year than in previous years.

In my Report of last year it was pointed out that the much better filtration of the river water, due to the large increase of the filtering area, and a most decided decrease in the number of cases of Typhoid Fever were concomitant events ; but on the short experience of the last 8 months of the year 1894 I declined to state that the latter was dependent on the former. Another twelve months have now past, and still the number of cases of Typhoid Fever are remarkably fewer than those reported in any year since the adoption of the Notification Act allowed us to know accurately the amount of infectious disease in the city. It will be seen by a glance at the Table above that the number of cases in 1895 were more than 75 per cent. less than the average number (70·5) in the 4 years 1890-3 inclusive. This pleasing result is quite in accordance with recent demonstrations of the efficacy of efficient sand filtration, such as were summarised in my Report for the year 1893. In the printed Report No. 3 of the City Engineer, presented in June, 1895, to the Water and Sewerage Committee on page 15, it will be seen that he refers to this question and says :—"The present filtering area is only "just sufficient to produce satisfactory results when the "river is in comparatively good condition." In times when the river is swollen "the water should not pass any of the "filters at a rate exceeding 3 inches an hour or even less. To "accomplish this our present area would have to be increased "about 25 per cent., or by about 1500 super yards. Such "an extension would cost about £3700."

These remarks of the City Engineer are fully in accord with the best that is known respecting sand filtration. As the possibilities of storage are so limited the river has to be filtered day by day, no matter what the condition of the water is ; and with the present area in times of flood there is distinct risk of the passage of pathogenic organisms into the filtered water, and consequent danger to the health of the citizens.

**Puerperal Fever.**—Of the diseases that are included under this heading only 3 were notified during the year, and they all proved fatal. One case was attended by a midwife, and as she had been concerned with a case of Puerperal Fever in a former year, she was requested to attend at a meeting of the Health Committee, and was warned of the danger of spreading the disease. A printed notice, cautioning all nurses and midwives who may be in attendance on a woman suffering from Puerperal Fever is sent, and should be influential in checking the spread of the disease.

#### THE BARBOURNE (ISOLATION) HOSPITAL.

The following Table shews the admissions during 1895, and for the 10 years preceding:—

Year.	Smallpox.	Diphtheria.	Typhoid Fever.	Scarlet Fever.	Measles.	Total.
1885 .....	...	...	5	43	...	48
1886 .....	1	1	17	24	...	43
1887 .....	...	...	8	41	...	49
1888 .....	...	1	10	41	...	52
1889 .....	...	2	17	16	...	35
1890 .....	...	...	22	97	...	119
1891 .....	...	...	20	24	1	45
1892 .....	1	4	9	107	1	122
1893 .....	12	...	8	143	1	164
1894 .....	8	7	11	45	1	72
Average for 10 years ...	2·2	1·5	12·7	58·1	·4	74·9
<b>1895 .....</b>	...	<b>6</b>	<b>5</b>	<b>79</b>	...	<b>90</b>

Five of the patients remained under the care of their own medical man.

One of the patients admitted as Typhoid Fever proved to be suffering from Meningitis, and died 11 days after admission. Another patient admitted suffering from Diphtheria had also Delirium Tremens, and lived only 30 hours after admission. These were the only deaths that occurred in the Hospital during the year.

The ages of the patients admitted were as follows :—

	Under 5 years.	5 to 10 years.	10 to 20 years.	Over 20 years.
Scarlet Fever .....	21	32	23	3
Diphtheria .....	2	1	1	2
Typhoid Fever.....	...	...	3	2

As has been mentioned in my Quarterly Reports the Hospital has been on several occasions during the year inadequate to receive patients who sought admission.

During the year plans for the new Isolation Hospital have been prepared and have been approved by your Authority. They now await the approval of the Local Government Board.

On two occasions during the year the Iron Room in the grounds of the Barbourne Hospital was used in accordance with Section 15 of the Infectious Disease Prevention Act, 1890, as a temporary shelter for members of a family “who were compelled to leave their dwellings for the purpose of enabling such dwellings to be disinfected by the local authority.”

The Small-pox Hospital is kept in constant readiness for use, but no patient has been treated there during the year.



The only case of Small-pox that occurred during the year was nursed at home and successfully isolated there.

	Births.	Successfully Vaccinated.	Insusceptible of Vaccination.	Had Smallpox.	Died Unvaccinated.	Vaccination postponed.	Remaining.	Children not finally accounted for (including cases postponed) per cent. of births.
1887.....	1377	1076	5	—	201	22	73	6.9
1888.....	1319	1034	3	—	164	31	87	8.9
1889.....	1330	1027	4	—	162	25	112	10.3
1890.....	1255	906	3	—	172	29	145	13.9
1891.....	1312	825	6	—	176	51	254	23.2
1892.....	1271	878	—	1	176	22	194	16.9
1893.....	1265	925	4	—	188	33	115	11.6
1894.....	1320	809	7	—	174	55	275	25.0

The returns of the Vaccination Officer for the Worcester District are printed in the Reports of the Medical Officer to the Local Government Board. The latest published return is for the year 1891. By the courtesy of the Public Vaccinator (Mr. T. P. Gostling), I am enabled to lay before you the statistics for the years 1892-3-4.

It will be seen that the percentage of children not finally accounted for has been increasing of late years. Such a large percentage as that shown for the year 1894 is very undesirable. In my Annual Report for 1894 the relations between Smallpox and Vaccination were fully considered ; and a neighbouring city is now giving an object lesson to the world which should be taken to heart.



In the scheme of the new Isolation Hospital a steam disinfecting apparatus is provided for. This will be of the greatest possible help in the endeavour to check infectious diseases.

**Bakehouses.**—The number of bakehouses in use in the city during the year is 76. There are also 7 bakehouses not in use. I made 226 visits. The law relating to bakehouses is fairly well kept. I served 7 notices to whitewash, but this was in most cases done in accordance with a verbal request. In 17 bakehouses I found “young persons” employed, and notified the fact to H.M. Inspector of Factories as the law directs.

It is a matter for much regret that the refuse of the city is still deposited in various places in the city to the certain pollution of the air and soil. On more than one occasion building plans have come before me for the proposed erection of houses on “made” soil. It has been my duty to point out the great undesirability and the possible danger to health of building houses on ground that has been “made” by filling up low-lying ground or old gravel-pits with all kinds of noxious refuse. But this risk will still continue so long as the refuse is not destroyed. The provision of a refuse destructor is the only way out of the difficulty.

There have been many complaints made to me respecting the drainage of the Barbourne district, and the main sewers seem inadequate to carry off the amount that comes into them in times of heavy rain. These complaints have been referred to your City Engineer.

A possible danger to our water supply has come to my notice in inspecting plans for building houses at the west end of the Barbourne Park Estate. The level is such as to make it impossible to drain the houses into the sewer, which extends some way down Park Avenue. The houses accordingly have to drain into cesspools. If a number of these cesspools are created there in that very porous gravel soil, it is likely that noxious material will percolate into the river just above our intake. The possibility of this makes it an urgent matter that some scheme for adequately draining that area should be soon carried out.

During the year there came into my hands a copy of a "Report to the General Board of Health on a preliminary inquiry into the sewerage, drainage, and supply of water, and the sanitary condition of the inhabitants of the City of Worcester, by George Thomas Clark, Superintendent Inspector." The enquiry took place in December, 1848, that is, 47 years ago. This was really before the dawn of sanitary science, or before its dawn in Worcester.

The population of the city was estimated at 27,000. The government of the city consisted of a Mayor, 12 Aldermen, and 36 Town Councillors. "Besides these, there exists a body of (at present) 91 Commissioners for the Improvement of the City created under an Act passed May 30th, 1832, and exercising powers and levying rates for water supply, lighting, watching, &c., within the old city only." "The average annual death-rate between 1838 and 1844 was 26·5 per 1000, a proportion high in the mortality of towns." "It appears from a return from the

relieving officers of the sums expended in out-door relief, and which are a fair measure of sickness, that during the years 1847 and 1848 the principal expenses were incurred in the parishes of All Saints', St. Andrew's, St. Clement's, and St. Peter's, and this in a larger proportion than was due to their population."

The Inspector then goes on to detail the conditions he found in the worst places of the city, which is hardly conceivable in the present day. The whole city was drained into open cesspools, which were mostly in close proximity to the house, especially in the crowded parts. "House drainage is almost unknown in Worcester." It is computed that for the whole City there are "about 126,000 cubic feet of the contents of cesspools," and that "the surface actually exposed and giving off effluvia from these cesspools would be 25,200 superficial feet." "It appears that owing to the permeable character of the soil the fluid contents of these cesspools disappears."

"The present water supply of Worcester is of three kinds—well water, rain water, and Severn water." "The quality of the well water is bad. Often it is tainted by close proximity to the cesspool." The Severn water was pumped from the river and forced to a tank holding 13,000 gallons, situated near the Cross. From this tank the water flowed and was supplied to about 1800 houses and tenements containing about 9000 persons, or one-third of the population. "This water is not filtered, and in the ordinary state of the Severn is dirty, and in rainy weather very dirty indeed." "The annual expense of the water-works, taking the average of 1846-7, is £458."

The Inspector goes on to report on the scavenging, lighting, and public nuisances of the city, suggesting improvements in all directions: he also recommends a greatly improved water supply, either by collecting a pure supply from the Malvern Hills, or by adequately filtering the Severn water. A system of sewerage is also outlined with an outfall into the river below the Diglis weir.

The above extracts from this report are very interesting. It is very satisfactory that during the interval since the report was written all its recommendations have been carried out and a great deal more done than was then thought necessary. The result has been a great saving of life and freedom from sickness; not to speak of the absence of nuisances that must have assaulted the noses of the citizens on all sides.

The Yearly Report of the Sanitary Inspector follows the Tables of Statistics. Year by year the same ancient parts of the city need repairs. The rents of these old houses are small and the tenants mostly of a kind careless of their surroundings and no friends of cleanliness.

I remain,

My Lord and Gentlemen,

Your obedient Servant,

MABYN READ,

M.D. ; D.P.H. (Cantab.),

Medical Officer of Health.

March 22nd, 1896.



Table 1.—DEATHS REGISTERED FROM ALL CAUSES during the year 1895.

NOTE.—The Deaths of Non-Residents occurring in Public Institutions situated in the District are excluded, and the Deaths of Residents occurring in Public Institutions situated beyond the limits of the District are included.

[illegible]



## VITAL STATISTICS.

Population, estimated to the middle of 1895.....	43,994
Deaths .....	940
Death-rate per 1000 of the population .....	21·3
Deaths under one year .....	259
Infantile death-rate per 1000 births registered during the same period.....	189
Deaths from the seven principal Zymotic diseases .....	96
Zymotic death-rate.....	2·18
Births { Male 703 } { Female 662 } .....	1365
Birth-rate per 1000 of the population .....	31·02



TABLE II.  
AGE AND SEX DISTRIBUTION OF DEATHS FOR EACH MONTH OF THE YEAR 1895.

	January	February	March	April	May	June	July	August	September	October	November	December	Total.
Male ...	8	18	23	15	10	7	6	7	8	12	11	13	138
Under 1 year													
Female...	12	11	24	9	10	9	5	11	6	7	11	6	121
													259
Male ...	1	6	9	10	0	3	2	3	0	2	3	2	41
1 to 5 years													
Female...	6	9	14	5	3	5	1	1	2	2	2	2	52
													93
Male ...	15	18	18	21	11	25	10	12	13	10	13	18	184
5 to 65 years													
Female...	12	12	19	16	23	13	11	9	8	4	16	3	146
													330
Male ...	10	12	5	6	12	10	6	9	5	4	4	6	89
Over 65 years													
Female...	12	20	29	22	13	7	9	10	3	6	15	15	161
													250
	76	106	141	104	82	79	50	62	45	47	75	65	M. 452
													F. 480
													932

N.B.—This Table does not include the 8 deaths that took place in Powick Asylum.



TABLE III.  
DEATHS AND BIRTHS OCCURRING IN PARISHES.

Parish.	Population Census 1891	Total Deaths.	Death- rate.	Births.	Deaths under 1 year.	Infantile Death- rate.
All Saints ...	1809	49	27·0	64	14	218
St. Andrew...	1175	39	33·1	51	10	196
St. Swithin ...	558	9	16·1	7	...	...
Blockhouse...	2202	62	28·1	90	26	288
St. Helen ...	945	27	28·5	16	7	437
St. Michael ...	444	11	24·7	5	1	200
St. Alban ...	153	9	58·8	7	1	285
College Precincts...	129	1	7·7	2	...	...
St. Nicholas..	1800	42	23·3	29	5	172
Whistones ...	2862	67	23·4	76	12	157
St. John .....	4579	85	18·3	133	27	203
St. Clement...	2107	49	23·2	79	22	278
South Hallow	486	1	2·0	8	...	...
St. Martin ...	4665	112	24·0	199	29	145
St. Peter .....	7880	152	19·2	254	48	188
South Claines	11,085	231	20·8	345	58	168
<b>Worcester ...</b>	<sup>1895.</sup> <b>43,994</b>	<b>940</b>	<b>21·3</b>	<b>1365</b>	<b>259</b>	<b>189</b>

TABLE IV.  
ANALYSIS OF DEATHS OCCURRING IN PARISHES.

Parish.	Male.	Female.	Total.	Age.			
				Under 1 year.	1—5 years.	5—65 years.	Over 65 years.
All Saints.....	31	18	49	14	8	15	12
St. Andrew .....	22	17	39	10	11	12	6
St. Swithin .....	4	5	9	...	1	4	4
Blockhouse .....	34	28	62	26	4	25	7
St. Helen .....	16	11	27	7	1	12	7
St. Michael .....	3	8	11	1	...	5	5
St. Alban .....	2	7	9	1	3	2	1
College Precincts	1	...	1	...	...	...	1
Whistones.....	27	40	67	12	7	20	28
St. Nicholas .....	18	24	42	5	3	16	18
St. John.....	45	40	85	27	8	21	29
St. Clement .....	21	28	49	22	4	8	15
South Hallow ...	1	...	1	...	...	1	...
St. Martin.....	51	61	112	29	12	48	23
St. Peter .....	68	84	152	48	17	53	34
South Claines ...	108	123	231	58	13	91	58

TABLE V.  
BIRTH-RATE AND DEATH-RATE OF 1895, COMPARED WITH THE RATES OF THE  
PRECEDING NINE YEARS.

Year.	Population.	Natural Increase	Registered Births.	Birth-rate.	Total Deaths.	Death-rate.	Deaths under 1 year.	Infantile Death-rate.	Deaths under 5 years.	Deaths from the seven principal Zymotics	Zymotic Death-rate.
1886	41,710	416	1356	30·	940	22·4	293	217·	357	79	1·8
1887	41,965	452	1378	32·	926	22·6	273	196·	359	77	1·8
1888	42,220	515	1321	31·3	806	18·9	224	169·5	317	93	2·3
1889	42,462	565	1332	31·5	767	18·1	218	163·	264	46	1·3
1890	42,715	378	1256	29·4	878	20·6	225	179·	281	59	1·4
1891	42,950	341	1273	29·6	932	21·6	269	208·	397	124	2·8
1892	43,195	293	1267	29·3	974	22·5	209	164·	277	57	1·3
1893	43,480	408	1244	28·6	836	19·2	207	166·	285	92	2·1
1894	43,735	577	1295	29·6	718	16·4	183	141·3	266	57	1·3
	Average of preceding 9 years...	438	1302	30·1	864	20·2	233	178·2	311	76	1·7
1895	43,994	425	1365	31·02	940	21·3	259	189	352	96	2·18

TABLE VI.  
DEATHS FROM THE SEVEN PRINCIPAL ZYMOTIC DISEASES IN 1895, COMPARED  
WITH THE PRECEDING NINE YEARS.

Year.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.			Diarrhoea.	TOTAL.
						Typhus.	Typhoid.	Con- tinued.		
1886.....	...	6	9	2	11	...	15	...	37	79
1887.....	...	19	1	3	13	...	8	...	33	77
1888.....	...	30	7	3	11	...	5	...	37	93
1889.....	...	...	2	3	1	...	7	...	33	46
1890.....	...	2	4	2	5	...	10	...	36	59
1891.....	...	32	...	2	60	1	8	...	21	124
1892.....	...	1	2	11	5	...	14	1	23	57
1893.....	1	19	4	9	6	...	9	...	44	92
1894.....	2	27	1	7	...	...	3	...	17	57
Average of the preceding nine years .....	...	15.2	3.3	4.6	12.4	...	8.7	...	31.2	76
1895.....	...	...	1	7	55	...	3	...	30	96



TABLE OF DEATHS DURING THE YEAR 1895 REGISTERED IN THE CITY OF WORCESTER, CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.  
These Tables are made at the request of the Local Government Board, on forms supplied by them.

These Tables are made at the request of the Local Government Board, on forms supplied by them.

Names of Localities.	Mortality from all causes, at subjoined Ages.								Mortality from subjoined causes, distinguishing Deaths of Children under Five Years of Age.																		Total			
	At all Ages.	Under 1 year.	1 and under 5	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.		Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Fevers.					Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhoea & Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia, and Pleurisy.	Heart Disease.		Influenza.	Injuries.	All Other Diseases.
													Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.													
City of Worcester .....	830	250	89	12	27	229	223	Under 5									1		55	29		1	64	2	1	2	184	339		
								5 upwds.	1	6			3		3					1	3	54	67	82	30	14	227	491		
Workhouse .....	56	6			1	30	19	Under 5															2				4	6		
								5 upwds.														6	3	8			33	50		
General Infirmary .....	81	3	7	3	6	50	12	Under 5															2			3	5	10		
								5 upwds.		1											1	2	6	6		6	49	71		
Barbourne Hospital .....	2			1	...	1		Under 5																						
								5 upwds.		1																	1	2		
Totals.....	969	259	96	16	34	310	254	Under 5								1		55	29		1	68	2	1	5	193	355			
								5 upwds.	1	8			3		3					1	4	62	76	96	30	20	310	614		
The subjoined numbers have also to be taken into account in judging of the above records of mortality.																														
Deaths occurring outside the district among persons belonging thereto...	8					6	2	Under 5																						
								5 upwds.																1			7	8		
Deaths occurring within the district among persons not belonging thereto ...	37		3	1	4	25	4	Under 5																	1	2	3			
								5 upwds.		1													2	3	4	24	34			

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS CLASSIFIED ACCORDING TO DISEASES, AGES, AND LOCALITIES.

This Table is made at the request of the Local Government Board, on forms supplied by them.

This Table is made at the Request of the Local Government Board, on forms supplied by them.																				
Names of Localities.	Population at all Ages.		Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.										Number of such cases removed from their homes in the several localities for treatment in Isolation Hospital.					
	Census 1891.	Estimated to middle of 1895.			Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Fevers.					Cholera.	Erysipelas.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Enteric or Typhoid.
									Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.							
City of Worcester.....	42,908	43,994	1,365	Under 5		35	10			1					3		21	2		
				5 upwds.	1	105	14			15	1		3		23		57	4	5	
General Infirmary.....				Under 5																
				5 upwds.		1	2			1					1		1			
Workhouse .....				Under 5																
				5 upwds.																
Totals.....				Under 5		35	10			1					3		21	2		
				5 upwds.	1	106	16			16	1		3		24		58	4	5	



**Report of the Sanitary Inspector for the  
Year 1895.**

---

*TO THE URBAN SANITARY AUTHORITY  
OF THE CITY OF WORCESTER.*

---

Gentlemen,

I have the honor to present my Report upon the Sanitary work carried out during the year.

Every assistance has been rendered to me by the owners and occupiers of property, and my relations with them have been most friendly, although in many instances my action has been the cause of a large expenditure of money.

The number of very old houses in the city entails a constant supervision, and it will be seen from the statistics that a large number have been found needing repairs.

*Filthy or Dilapidated Dwellings.*—Two hundred and seventy-three have been found, and the necessary work has been duly carried out. The tenants are frequently answerable for the state we find these houses in.

*Overcrowded Dwellings.*—Thirty-four houses have been found overcrowded. The great difficulty in cases of this kind is that the tenants cannot get other houses owing to

increased rental or the landlords object to let their houses to people with large families.

*Foul or Defective Drains.*—Three hundred and fifty-nine nuisances under this heading have been dealt with. The periodical inspections which are made in each parish are the means of discovering most of these defects which without such inspection would remain undiscovered for some time owing to the reluctance of tenants to make any complaint. As usual we find drains are continually being stopped in certain localities owing to the fault, in some instances designedly, of the tenants.

*Drains inside Dwellings.*—I may safely say that few of these now remain except where it has been impossible, owing to structural difficulties, to have them removed, and even where this is the case improved trapping has been carried out.

*Privy Cess-pits.*—These are becoming less in number every year, and I hope within the next two years that all may be done away with.

*Ash-pits.*—Many of these have been done away with during the past year, and as those existing are in the hot weather frequently a nuisance owing to the vegetable matter that is unwisely put in instead of being burnt, I hope to materially reduce the number in the ensuing year. The effective collection made by the Streets Superintendent should induce tenants to adopt the box system, and thus free themselves every week of objectionable matter.



*Dilapidated Privies and W.Cs.*—Two hundred and twenty-six have been dealt with. This number seems large, but the winter of 1894-5 was so severe that an immense amount of damage was done, which necessitated our constant attention for nearly two months after the disappearance of the frost.

*Accumulations of Manure, &c.*—I have had less complaints this year of this kind of nuisance, and the few there were have been at once removed.

*Miscellaneous Nuisances.*—Under this heading are included all other nuisances not included in the foregoing, such as swine kept so as to be a nuisance or within 50 feet of a dwelling, defective spouting, animals kept in dwellings, &c. Seventy cases have been dealt with. During the year two persons were prosecuted for keeping pigs within 50 feet of dwelling-houses, and convictions were obtained, and a fine of £2 and costs inflicted in each case.

*Disinfection of Houses.*—One hundred and sixty-nine have been disinfected in the year by four officers. This important work, although the duty of the occupier to do, is frequently carried out by us, that it may be effectively done.

*Factory and Workshops Acts.*—Under these Acts the sanitation and ventilation of Workshops are placed under your Authority. 141 are registered here. Whitewashing has been ordered in several cases, and no difficulty is found in getting the occupiers to do this when requested.

*Food and Drugs Act.*—Fifty-one samples under this Act have been analysed during the year.

Twenty-six samples of Milk.		
Thirteen	„	„ Butter.
Two	„	„ Lard.
Five	„	„ Pepper.
Two	„	„ Ground Rice.
Three	„	„ Coffee.

Prosecutions were ordered in the following cases and fines inflicted :—

Milk—fined 2Is. and costs.

Milk—fined 2Is. and costs.

Milk—fined 2Is. and costs.

*Dairies, Cowsheds, and Milkshops.*—Seventy-five are on the Register. They are periodically inspected, and as a rule are kept clean.

*Slaughter Houses.*—Thirty-five are registered. They are inspected every week, and lime-washed four times in the year.

*Common Lodging Houses.*—Ten are on the Register. They are inspected every week, and lime-washed throughout twice yearly.

*Canal Boats.*—One hundred and fifty-nine are registered with this Authority. They are inspected periodically at the wharves, and a report sent to the Local Government Board at the end of each year.

*Shop Hours Act.*—Owing to there now being an amended Act which fixes a penalty for not having an Abstract of the Act exhibited in shops coming under its regulations a circular was sent to every shop calling attention to this

Act. I have found no reason to report any breach of the Act.

Number of Sanitary defects and Nuisances				
found dealt with ...	...	...	...	1,309
Notices served for their abatement			...	402
				<hr/>
Abated without notices	...	...	...	907

In conclusion I have to express my thanks to the Medical Officer of Health for his ready and willing help in any difficulty, and to Mr. Sheppard, your Assistant Inspector, who ably assists me in carrying out the many duties of the office.

I am, Gentlemen,

Your obedient Servant,

W. PACY.







